To: Erickson, Russell[Erickson.Russell@epa.gov]

Cc: Mount, Dave[Mount.Dave@epa.gov]

From: Swain, Ed (MPCA)

Sent: Tue 2/18/2014 9:32:58 PM

Subject: RE: draft recommendations from Swain

Russ and Dave,

Please wait for a new draft before you take any time to comment, since things changed during a meeting this morning, and Emily has been running new stats.

Thanks,

Ed

----Original Message----

From: Erickson, Russell [mailto:Erickson.Russell@epa.gov]

Sent: Tuesday, February 18, 2014 2:40 PM

To: Swain, Ed (MPCA)

Subject: RE: draft recommendations from Swain

Ed:

In our call, you mentioned that this draft will be changing quite a bit - do you want us to still comment on this one. or wait for a new draft?

Russell Erickson

Mid-Continent Ecology Division

National Health and Environmental Effects Research Laboratory U.S. Environmental Protection Agency

6201 Congdon Boulevard Duluth, MN, USA 55804 Phone: 218-529-5157 Fax: 218-529-5003

Email: erickson.russell@epa.gov

----Original Message-----

From: Swain, Ed (MPCA) [mailto:edward.swain@state.mn.us]

Sent: Monday, February 17, 2014 11:47 AM

To: Erickson, Russell; Mount, Dave

Subject: FW: draft recommendations from Swain

Russ and Dave,

If either of you have time over the next few days, I'd greatly appreciate a quick scan of the attached document and your gut reaction on the major points. Of course, especially of interest is my attempt to create a potential range of protective sulfide concentrations and to then translate that range to a range of potential protective sulfate concentrations.

Regardless of whether you have time for this, thanks a lot for your generous help thus far!

Regards.

Ed

Edward Swain Minnesota Pollution Control Agency edward.swain@state.mn.us 651-757-2772

From: Swain, Ed (MPCA)

Sent: Monday, February 17, 2014 12:14 AM

To: Tomasek, Mark (MPCA); Engelking, Pat (MPCA); Alms, Eric (MPCA); Monson, Phil (MPCA) Subject: draft recommendations from Swain

Hi Team,

Attached is my attempt to integrate all the scientific information we have to date, in a form that would be useful for making a decision about the standard and the need for site-specific standards.

My big innovation is to combine Russ Erickson's ANOVA results with Will Bouchard's quantile regressions of the field data to make a matrix of possible "protective concentrations" (or are they possible sulfate water quality standards?). All but two of the 20 possibles are below 10 mg/L, so one possible announcement could be that the standard will not rise above 10 mg/L. But that is a policy decision--there are a lot of scientific options.

I'm not sure if or when I will be in the PCA building on Monday--it depends on the snow.

I will be accessible on my cell phone no matter where I am, 651-341-6007.

I will be around Tuesday and Wednesday, then I am taking Thursday and Friday off to go ski in Hayward Wisconsin.

I look forward to discussion and progress in the next few days!

Ed

Edward Swain Minnesota Pollution Control Agency edward.swain@state.mn.us 651-757-2772